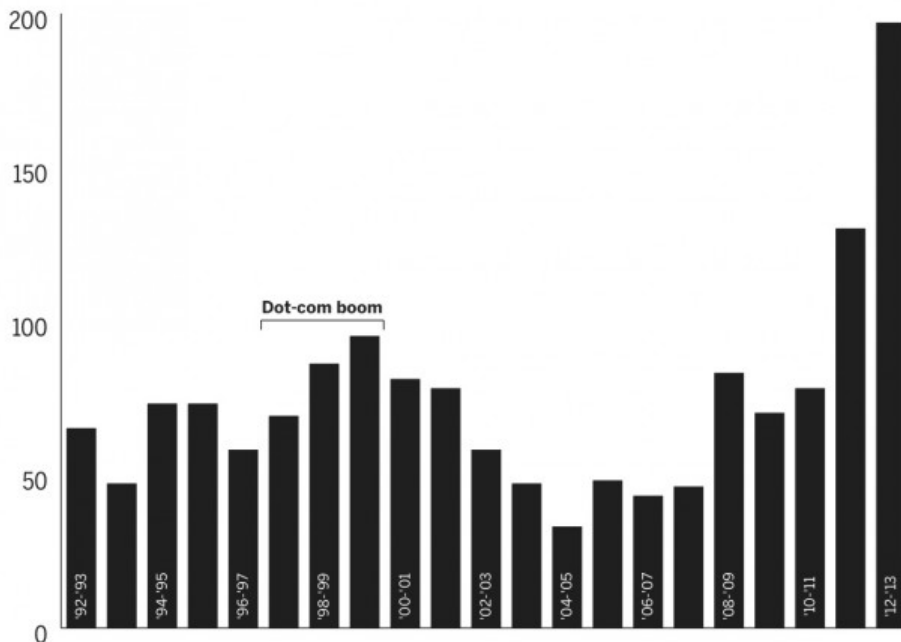


Computer Science Dept overworked, understaffed

GRAPH NUMBER OF STUDENTS ENROLLED IN 'INTRO TO COMPUTER SCIENCE'



BY CLINTON WANG
STAFF REPORTER
Tuesday, January 29, 2013

When roughly 40 more students enrolled in “Artificial Intelligence” last fall than in fall 2011, Professor Brian Scassellati knew he would have to find teaching assistants fast. But when he asked every graduate student in electrical engineering, mechanical engineering and computer science, only one volunteered.

Yale’s recent focus on science recruitment and a growing interest in computer science nationwide have combined to yield skyrocketing enrollment in computer science courses at Yale in the past two years. Although computer science faculty are excited to see more students approach their field, the department is already feeling the strain on its teaching capacity. Record-breaking class sizes have overloaded graduate students and professors, who hope that the administration will allow the department to hire more faculty and fund more graduate students in the near future.

“We’re very happy to see this growing interest in CS, but we’re facing burnout at this point,” Scassellati said. “The TAs are overworked, the faculty are overburdened ... something’s going to break. It’s going to get worse before it gets better.”

Though there were roughly 30 junior and senior computer science majors in 2010–’11, Computer Science Director of Undergraduate Studies Stanley Eisenstat said over 80 juniors and seniors are majoring in his department this year. Seventy-eight students enrolled in “Introduction to Computer Science” in the 2010–’11 academic year, while 197 students enrolled this academic year.

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If the number continues to grow, students may have to compete for space and research opportunities, Scassellati said. He added that on Monday morning alone, he had to turn away two senior projects because he already supervises 10 doctoral candidates and 15 undergraduates.

The sizes of the computer science faculty and doctoral student body — the main source of TAs — have remained roughly constant for three decades, though many courses have seen their enrollment double over the past two years to unprecedented levels, and faculty said interest in computer science courses extends beyond majors in the department. Scassellati said students in fields as distant as philosophy and ethics, politics and economics have enrolled in his senior-level courses in recent years. As a result of overwhelming demand, he said he has had to cap enrollment on his “Intelligent Robotics” course for the first time this year, turning away over 60 students for a class of 20.

The large class sizes have also made courses more difficult to teach. Professors Joan Feigenbaum and Dana Angluin said the larger student body reflects a wide range of abilities and background knowledge, forcing faculty to teach at a slower pace. Angluin also said she is no longer able to get to know her students by face, and she worries that further growth may compromise the computer science community’s camaraderie and one-on-one interactions.

Meanwhile, graduate students have had to compromise their studies and research to aid the department, students interviewed said. Yitzchak Lockerman GRD ’16 said he was unable to conduct his research for large parts of last semester while he was the TA for “Artificial Intelligence.” Aaron Segal GRD ’17 said he has not been able to grade problem sets as thoroughly as he would like to, adding that he has often spent as much time holding scheduled office hours as responding to students’ emails.

Computer Science Department Chair Holly Rushmeier said the onset of the 2008 recession has prevented the administration from allocating more faculty and resources to the department, which currently has one junior faculty search that is set to finish within several months. She added that the department is currently unable to offer more courses and must instead focus on sustaining its existing course offerings while dealing with limited resources.

“We don’t really know the answer,” Eisenstat said. “In the short term we’ll just have to cope. We will adjust how we use TAs, we will adjust teaching styles. And we’ll keep our fingers crossed.”

Provost Benjamin Polak said many other departments face similar faculty shortages, adding that the faculty size has remained capped at 700 since the recession.

Three of six students interviewed said the shortage of TAs has worsened their class experience.

David Cruz ’14 said TAs in one of his computer science classes had to make the problem sets easy to grade in order to accommodate increased enrollment.

“There’s a real need for extra TFs,” Summer Baxter ’15 said. “There are a couple of TFs who haven’t passed the SPEAK test and can’t speak English fluently.”

Yale currently has 19 computer science professors.

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Chimerical7 · a year ago

Excellent article! I request further clarification on the chart posted. Of the 197 students enrolled this year, how many are undergrads, how many are master's and how many are PhD students ? I shall very much appreciate your answer, thank you.

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yalengineer → Chimerical7 · a year ago

From my recollection of these classes it tends to be predominantly undergrads. I would guess >90%.

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Guest · a year ago

I would like clarification on the graph attached.

^ | ▾ · Reply · Share ›



George L · a year ago

Add prerequisites to courses to prevent over-enrollment from outside departments and students who do not have appropriate knowledge for the subject, limit department enrollment and hire more professors! This trend is not going to go away.

^ | ▾ · Reply · Share ›



Max Uhlenhuth · a year ago

And what have Yale's peer institutions done in the past 30 years about their CS depts while we were busy flatlining? They tripled. Look at both Harvard and Princeton. I know that they're just shabby pre-professional trade schools, but Yale needs to wake up to the fact that the foreign language requirement for 2013 isn't Spanish or Chinese, but javascript.

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